

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/21189

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : C07H 21/04; A61K 48/00 US CL : 435/455; 514/44; 530/350; 536/23.5 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 435/455; 514/44; 530/350; 536/23.5 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched. Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	WO 2005/026112 A2 (ELIXIR PHARMACEUTICALS, INC.) 24 March 2005 (24.03.2005), entire document, esp. pages 78-89.	1-107
T	US 2005/0164969 A1 (BLANDER et al.) 28 July 2005 (28.07.2005), entire document, esp. pages 15-16, paragraphs [0144]-[0147].	74-93
A		1-73, 94-107
X	US 2001/0039012 A1 (LAPIDUS) 8 November 2001 (08.04.2001), entire document, esp. claims 1-14.	94-96, 98-107
A	ERTEKIN-TANNER et al. "Linkage of Plasma AB42 to a Quantitative Locus on Chromosome 10 in Late-Onset Alzheimer's Disease Pedigrees". Science. 2000. Volume 290, page 2303.	1-107
A	Myers et al. "Susceptibility Locus for Alzheimer's Disease on Chromosome 10". Science. 2000. Volume 290, pages 2304-2305. entire document.	1-107
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 03 October 2005 (03.10.2005)		Date of mailing of the international search report 01 NOV 2005
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer Gary Benzion <i>J. Roberts for</i> Telephone No. 571-272-1600

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## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BITTERMAN et al. "Inhibition of Silencing and Accelerated Aging by Nicotinamide, a Putative Negative Regulator of Yeast Sir2 and Human SIRT1". Journal of Biological Chemistry. 2002. Volume 277. Number. 47, pages 45099-45107, entire document.	1-107

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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐

The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐

The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐

No protest accompanied the payment of additional search fees.

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### BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-48, 52-54, drawn to a method for gathering genetic information.

Group II, claim(s) 49-51, drawn to a computer-readable database.

Group III, claim(s) 55-73 drawn to a method for evaluating a compound.

Group IV, claim(s) 74-93, drawn to a method for treating or preventing Alzheimer's Disease.

Group V, claim(s) 94-107, drawn to method for evaluating a disorder.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: They are unified only by the identification of a nucleotide within the coding region of the SIRT1 gene, which is well-known within the art. For example, Frye ("Characterization of five human cDNAs with homology to the yeast SIR2 gene: Sir2-like proteins (sirtuins) metabolize NAD and may have protein ADP-ribosyltransferase activity" Biochem. Biophys. Res. Commun. 260 (1), 273-279 (1999) discloses the identification of the coding sequence of the SIRT1 gene (Accession Number: NM\_012238).

The identification of a nucleotide within the coding sequence of the SIRT1 gene cannot therefore be considered a special technical feature, as lack of unity rules hold that a feature known to a person of ordinary skill in the art makes no advance over the prior art.

The expression "special technical feature" refers to those features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. Thus, a feature found in the prior art can not be considered to be a special technical feature.